

WHAT IS CLAIMED IS:

1. A heat exchanger comprising:
an air flow structure that has a top surface, a bottom surface, a
5 width, a length, a first edge that runs along the width, a second edge
that runs along the width, a plurality of first grooves in the top surface,
and a plurality of second grooves in the bottom surface, the first and
second grooves extending along the length between the first and second
edges, a groove having a substantially uniform width from the first edge
10 to the second edge;
a first wall connected to the air flow structure; and
a second wall connected to the air flow structure.
2. The heat exchanger of claim 1 wherein the first wall is
15 connected to the first edge.
3. The heat exchanger of claim 1 and further comprising a
first plate formed adjacent to the top surface, the first plate contacting
the first wall, the first plate having a first opening and a second opening
20 spaced apart from the first opening, the first opening exposing portions
of the first grooves.
4. The heat exchanger of claim 3 wherein the first plate
contacts the top surface.
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5. The heat exchanger of claim 2 wherein the second wall is
connected to the second edge.

6. The heat exchanger of claim 3 and further comprising a second plate formed adjacent to the bottom surface, the second plate contacting the second wall, the second plate having a third opening and a fourth opening spaced apart from the third opening, the third opening
5 exposing portions of the second grooves.

7. The heat exchanger of claim 6 wherein the second plate contacts the bottom surface.

10 8. The heat exchanger of claim 6 wherein the second plate includes a base section and sidewalls that extend perpendicularly away from the base section.

15 9. The heat exchanger of claim 8 and further comprising a first air flow generator connected to the second plate adjacent to the second opening, the first air flow generator causing air to follow a path through the first opening along the first grooves and through the second opening.

20 10. The heat exchanger of claim 8 and further comprising a first air flow generator connected to the first plate adjacent to the second opening, the first air flow generator causing air to follow a path through the first opening along the first grooves and through the second opening.

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11. The heat exchanger of claim 9 and further comprising a second air flow generator connected to the first plate adjacent to the fourth opening, the second air flow generator causing air to follow a

path through the third opening along the second grooves and through the fourth opening.

12. The heat exchanger of claim 9 and further comprising a
5 second air flow generator connected to the second plate adjacent to the fourth opening, the second air flow generator causing air to follow a path through the third opening along the second grooves and through the fourth opening.

10 13. The heat exchanger of claim 1 wherein a first groove and a second groove share a section of the structure.

14. The heat exchanger of claim 1 wherein the first wall
includes plastic.

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15. The heat exchanger of claim 15 wherein the second wall
includes plastic.

16. A method of forming a heat exchanger, the method
20 comprising the steps of:

forming an air flow structure that has a top surface, a bottom
surface, a width, a length, a first edge that runs along the width, a
second edge that runs along the width, a plurality of first grooves in the
top surface, and a plurality of second grooves in the bottom surface, the
25 first and second grooves extending along the length between the first
and second edges, each groove having a substantially uniform width
from the first edge to the second edge; and

forming a first wall having a plurality of openings; and

connecting the first wall to the first edge of the air flow structure.

17. The method of claim 16 and further comprising the steps
of:

forming a second wall having a plurality of openings; and
5 connecting the second wall to the second edge of the air flow
structure.

18. The method of claim 16 wherein the first wall is adhesively
connected to the air flow structure.
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19. The method of claim 17 wherein the second wall is
adhesively connected to the air flow structure.

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